

Appendix D

Monitoring Program Stations No. ALT-8-9-10-11

Year: 2014

Description: Discharge from Tank Farm Secondary Containments ALT-8-9-10 & Landfarm Facility ALT-11.

Results:

The Department of National Defence (DND) intended to discharge water from the Fuel Tank Farm Secondary Containments at ALT-8-9-10 in June 2014. At least 10 days notice was provided to the Inspector and Nunavut Water Board, the email chain is attached below.

Water samples from within the secondary containments of ALT-8-9-10 were collected on 24 June 2014 and analyzed; analytical results are attached in Appendix E.

Two samples were taken at ALT-8 (sample identifications: ALT-8 and ALT-8.2) to better represent the freshet quality due to the large size of the Secondary Containment facility.

DND had no intentions to discharge any waters from Land Farm Containments at ALT-11 and the newly constructed land farm at ALT-10 (as identified in the Renewal & Amendment Application).

In June 2014, analytical results (Appendix E) of the freshet in ALT-8-9-10 did not exceed any of the Effluent Quality Limits (Part D, Item 11). However, freshet from ALT-8.2 had exceeded the Lead quality limit at 1.72 ug/L, with the rest of the parameters within compliance. Confirmatory re-sampling at ALT-8.2 was conducted on 11 July 2014, and the lead quality effluent were 0.13 and <0.05 ug/L (below detection limits), the analytical results of the confirmatory re-sampling is attached in Appendix H.

It should be noted that DND is continuing to investigate the natural and anthropogenic sources of the lead in water, as elevated concentration above the Water Licence effluent quality limits have been detected at ALT-8-9-10. Previous work determined the berm construction material (gravel, crushed shale) to be a possible lead source; however, the direct dissolution process from solid to dissolve in water remains to be established. The 2013 Annual Report presented lead results from the fuel tanks at CFS Alert, which contained concentration that is unlikely to cause lead contamination in water to the concentration extent observed in June 2013 even under the assumption of complete lead partitioning into water. Given the possibility for natural elevated background lead concentrations, future detection of lead in effluent water is possible at CFS Alert.

Notes (extra spaces removed):

From: Justin Hack [mailto:Justin.Hack@aandc-aadnc.gc.ca]

Sent: Monday, July 28, 2014 11:43 AM
To: Tam A@CFB Trenton WENV@Trenton
Subject: Re: 3BC-ALT1015 Alert Berm Water Discharge Notice

Good morning Andrew,

Thank you for the email. I am just heading into the field and will review later this evening. For all things that met discharge criteria please go ahead and discharge.

Regards,

Justin

>>> <Andrew.Tam@forces.gc.ca> 7/28/2014 11:18:01 AM >>>
Good morning Justin,

As per Nunavut Water Board (NWB) Licence 3BC-ALT1015, Part D, Para. 14, the Department of National Defence (DND) would like to provide notice of our intent to discharge water from the Fuel Storage Facilities at CFS Alert, Nunavut.

DND would like to discharge water from the following secondary containment berms:

ALT-8 - Airfield Tank Farm Secondary Containment;
ALT-9 - Upper Tank Farm Secondary Containment;
ALT-10 - Day Fuel Tank Farm Secondary Containment.

Please note that due to the large area of ALT-8, two grab samples were collected and labelled: 'ALT-8' from the southern portion of the Airfield Tank Farm and 'ALT-8.2' from the northern portion of the Airfield Tank Farm.

As well, please note that ALT-11 (Landfarm, aka Biopile) does not require discharging as the berm water is re-used to re-hydrate the contaminated soils located within for treatment.

Attached are the Certificates of Analysis containing the water analytical results for the sites (listed above).

For the secondary containment waters at ALT-8, ALT-9, and ALT-10, the analytical results collected on 24 Jun 14 did not exceed any of the effluent quality limits (Part D, Para. 11) for Benzene, Toluene, Ethylbenzene, Lead, Oil & Grease, and Phenols.

However, at ALT-8.2, the Lead parameter had exceeded the effluent quality limits at: 1.72 ug/L; ALT-8.2 did not exceed the effluent quality limits for the remaining parameters: Benzene, Toluene, Ethylbenzene, Oil & Grease, and Phenols.

On 11 Jul 14, DND re-sampled the secondary containment water at ALT-8.2 for confirmatory analysis which are represented as ALT 8.2.1 and ALT 8.2.2 in the attached Certificates of Analysis; the Lead concentrations were: 0.13 and <0.05 (below detection limits) ug/L, respectively. The re-sampled results are below the effluent quality limits for the lead parameter.

Please accept this notice as DND will proceed with discharging water as described above in 10 days from this notice. The water will be discharged in a manner that prevents damage to the tundra.

In addition, if there are no concerns, DND would appreciate a response in support of secondary containment water discharge within the 10 day wait period to help expedite the process given CFS Alert's very short summer work season.

Finally, may I please request a confirmation of receipt for this email?

Regards,

Andrew Tam

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